What is claimed is:

1. A device for determining in the frequency domain the correlation between a code modulated signal and a replica code sequence in parallel for various relative shifts between said code modulated signal and said replica code sequence, said device comprising a common memory arranged for storing in sequence different intermediate results in determining said correlation, said intermediate results including at least samples resulting at various stages of a time to frequency transform used for transforming samples of said code modulated signal into the frequency domain and samples resulting at various stages of a frequency to time transform used for transforming obtained correlation results into the time domain.

2. The device according to claim 1, wherein said memory is further arranged for storing samples of said code modulated signal before storing said intermediate results.

3. The device according to claim 1, further comprising a multiplier for multiplying one of a reordered conjugate of time to frequency transformed samples of said replica code sequence and reordered time to frequency transformed samples of an inverted replica code sequence to said time to frequency transformed samples of said code modulated signal in order to obtain said correlation results.

4. The device according to claim 1, wherein said time to frequency transform is a Fast Fourier Transform and wherein said frequency to time transform is an Inverse Fast Fourier Transform.

5. The device according to claim 1, wherein said time to frequency transform is a Decimation-In-Frequency Fast Fourier Transform and wherein said frequency to time transform is a Decimation-In-Frequency Inverse Fast Fourier Transform, said device further comprising:

a processing element for performing a respective butterfly operation for all stages of said Decimation-In-Frequency Fast Fourier Transform and of said Decimation-In-Frequency Inverse Fast Fourier Transform;

a first multiplier connected between an output of said memory and an input of said processing element for multiplying samples to be input to said processing element for a respective stage of said Inverse Fast Fourier Transform with coefficients provided for said respective stage of said Decimation-In-Frequency Inverse Fast Fourier Transform;

a second multiplier arranged between an output of said processing element and an input of said memory for multiplying samples output by said processing element for a respective stage of said Decimation-In-Frequency Fast Fourier Transform with coefficients provided for said respective stage of said Decimation-In-Frequency Fast Fourier Transform; and

an index generator for determining for each stage of said Decimation-In-Frequency Fast Fourier Transform and said Decimation-In-Frequency Inverse Fast Fourier Transform the respective order of samples provided from said memory to said processing element.

6. The device according to claim 5, further comprising a second memory for providing said coefficients required for all stages of said Decimation-In-Frequency Inverse Fast Fourier Transform to said first multiplier and for providing said coefficients required for all stages of

said Decimation-In-Frequency Fast Fourier Transform to said second multiplier.

7. The device according to claim 5, wherein said first multiplier is arranged in addition for multiplying one of a reordered conjugate of time to frequency transformed samples of said replica code sequence and reordered time to frequency transformed samples of an inverted replica code sequence to said Fast Fourier transformed samples of said code modulated signal in order to obtain said correlation results.

8. The device according to claim 5, wherein said second multiplier is arranged in addition for multiplying one of a reordered conjugate of time to frequency transformed samples of said replica code sequence and reordered time to frequency transformed samples of an inverted replica code sequence to said Fast Fourier transformed samples of said code modulated signal in order to obtain said correlation results.

9. The device according to claim 1, wherein said device is a matched filter.

10. The device according to claim 1, wherein said device is a receiver comprising in addition a receiving component for receiving a code modulated signal from a beacon and a replica generator for generating said replica code sequence.

11. The device according to claim 1, wherein said device is a mobile terminal including a receiver receiving said code modulated signals from a beacon.

12. The device according to claim 1, further comprising a receiving component for receiving samples of said code modulated signal from a receiver receiving said code modulated signal from a beacon and a replica generator for generating said replica code sequence.

13. The device according to claim 12 wherein said device is a network element of a communication network.

14. A system for determining in the frequency domain the correlation between a code modulated signal and a replica code sequence in parallel for various relative shifts between said code modulated signal and said replica code sequence, said system comprising:

a receiver with a receiving component for receiving a code modulated signal from a beacon and with a transmitting component for providing samples of said code modulated signal;

a device with a receiving component for receiving samples of a code modulated signal provided by said receiver and a common memory arranged for storing in sequence intermediate results in determining said correlation, said intermediate results including at least samples resulting at various stages of a time to frequency transform used for transforming samples of said code modulated signal into the frequency domain and samples resulting at various stages of a frequency to time transform used for transforming obtained correlation results into the time domain.

15. A method for determining in the frequency domain the correlation between a code modulated signal and a replica code sequence in parallel for various relative shifts between said code modulated signal and said replica code sequence, said method comprising:

a) applying a time to frequency transform on samples of said code modulated signal for transforming said samples of said code modulated signal into the frequency domain, and storing intermediate results resulting at various stages of said time to frequency transform in a memory; and

b) applying a frequency to time transform on obtained correlation results for transforming said obtained correlation results into the time domain, and storing intermediate results resulting at various stages of said frequency to time transform in said same memory.

16. The method according to claim 15, further comprising

reordering a one of a conjugate of time to frequency transformed samples of said replica code sequence and time to frequency transformed samples of an inverted replica code sequence in order to avoid the necessity of reordering the output of said time to frequency transform of step a) and the input of said frequency to time transform of step b); and

multiplying said reordered conjugate of time to frequency transformed samples of said replica code sequence or said reordered time to frequency transformed samples of an inverted replica code sequence to said time to frequency transformed samples of said code modulated signal in order to obtain said correlation results.

17. A software program product in which a software code is stored for determining in the frequency domain the correlation between a code modulated signal and a replica code sequence in parallel for various relative shifts between said code modulated signal and said

replica code sequence, said software code realizing the following steps when running in a processing unit:

a) applying a time to frequency transform on samples of said code modulated signal for transforming said samples of said code modulated signal into the frequency domain, and storing intermediate results resulting at various stages of said time to frequency transform in a memory; and

b) applying a frequency to time transform on obtained correlation results for transforming said obtained correlation results into the time domain, and storing intermediate results resulting at various stages of said frequency to time transform in said same memory.